

LISTING OF CLAIMS

1. (Currently amended) A device suitable for use in an assay for the detection of at least one substance in a sample suspected of containing the same comprising:

a substrate having a surface for supporting at least one complement at fixed locations thereof, said surface having been contacted with said sample;

at least one complement fixed to the surface of said substrate, each having a complementary binding substance for a corresponding substance which may be said at least one substance;

signal generating means attached to said corresponding substance for generating a detectable signal at locations where a complement is bound to its corresponding substance; and

a protective coating applied to the surface of said substrate in contact with said signal generating means and covering complement fixed on the sample contacted surface of said substrate and any corresponding substance bound thereto, said protective coating comprising a protective coating forming material which is impervious to the penetration of at least one gas capable of adversely affecting the signal generation of the signal generating means and which is at least substantially transparent to the detectable signal generated by the signal generating means.

2. (Cancelled)

3. (Previously presented) The device of claim 1 wherein the protective coating forming material comprises an acrylic polymer resin.

4. (Previously presented) The device of claim 3 wherein the acrylic polymer resin is a copolymer of methyl acrylate and ethyl methacrylate.

5. (Previously presented) The device of claim 1 comprising a hermetic seal between the protective coating and the substrate.

6.-16. (Cancelled)

17. (Withdrawn) A composition for forming a protective coating over the surface of an assay substrate having an indicating agent capable of generating a detectable signal associated therewith, comprising a protective coating forming material, and a delivery system for delivering the protective coating forming material in an amount sufficient to coat the surface of the assay substrate, wherein the delivery system evaporates from the surface of the assay substrate to form a protective coating at least substantially composed of the protective coating forming material that is at least substantially transparent to the detectable signal generated by the indicating agent.

18. (Withdrawn) The composition of claim 17 wherein the protective coating forming material comprises an acrylic polymer resin.

19. (Withdrawn) The composition of claim 18 wherein the acrylic polymer resin is a copolymer of methyl acrylate and ethyl methacrylate.

20. (Withdrawn) A method for forming a substantially transparent protective coating over the surface of an assay substrate having an indicating agent capable of generating a detectable signal associated therewith, said method comprising the steps of:

applying to the surface of the assay substrate an effective amount of the composition of claim 17 sufficient to form the protective coating and seal the indicating agent from the ambient atmosphere; and

drying said composition to remove the delivery system to yield the substantially transparent protective coating.

21. (Withdrawn) The method of claim 20 further comprising polishing the protective coating to enhance the transparent qualities of the protective coating.

22. (Withdrawn) The method of claim 20 wherein the applying step further comprises:

dipping the assay substrate in the composition of claim 17 for a sufficient time to allow the composition to adhere to the surface of the assay substrate; and

withdrawing the assay substrate from the composition.

23. (Withdrawn) The method of claim 22 wherein the assay substrate is dipped from about 5 seconds to 10 seconds.

24. (Withdrawn) The method of claim 20 wherein the applying step further comprises:

pipetting the composition of claim 17 in an amount sufficient to coat the surface of the assay substrate associated with the indicating agent; and

rocking the assay substrate from side to side for a sufficient time to evenly distribute the composition thereacross and form the protective coating.

25. (Withdrawn) The method of claim 20 wherein the applying step further comprises:

spraying the composition of claim 17 in an amount sufficient to coat the surface of the assay substrate associated with the indicating agent; and

rocking the assay substrate from side to side for a sufficient time to evenly distribute the composition thereacross and form the protective coating.

26. (Withdrawn) The method of claim 21 wherein the polishing step further comprises:

preparing a polishing solution consisting of a solvent;

suspending the assay substrate in the polishing solution for a sufficient time to remove a layer portion of the protective coating;

withdrawing the assay substrate from the polishing solution;

shaking off any excess polishing solution from the assay substrate;

drying the assay substrate; and

if necessary, repeating the above steps.

27. (Withdrawn) The method of claim 26 wherein the solvent is selected from the group consisting of toluene, acetone and mixtures thereof.

28. (Withdrawn) The method of claim 27 wherein the solvent is a mixture containing acetone and toluene in a volumetric ratio of from about 1:2 to 1:3.

29. (Cancelled)

30. (Previously presented) The device of claim 1 wherein the substrate is made from a material selected from the group consisting of glass, aminosilanes, epoxies, and poly-L-lysines.

31. (Cancelled)

32. (Previously presented) The device of claim 1 wherein the protective coating is impervious to ozone.

33. (Previously presented) The device of claim 1 wherein the substrate is a microarray.

34. (Previously presented) The device of claim 1 wherein the signal generating means comprises an indicating agent.

35. (Previously presented) The device of claim 34 wherein the indicating agent has a binding affinity for the corresponding substance.

36. (Previously presented) The device of claim 1 wherein said at least one complement comprises a corresponding substance bound thereto.